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First Name
Inventor:

Examiner: Tracy Ann Vivlemore

Serial No.: 10/702,676

Filing Date: November 6, 2003

Group Art Unit: 1635

Title: NUCLEIC ACID ENZYME
BIOSENSORS FOR IONS

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
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Dear Sir:

In accordance with the provisions of 37 C.F.R. § 1.56, Applicants request that citation and examination of the references identified on the attached Form PTO-1449, required copies of which are enclosed herewith in accordance with 37 C.F.R. §1.98, be made during the course of examination of the above-referenced application for United States Letters Patent.

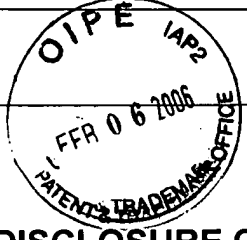
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- Payment by credit card. Form PTO-2038 is attached.

Respectfully submitted,

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Form PTO-1449 (Rev. 8-88)		Attorney Docket No. ILL05-040-DIV-US	Serial No. 10/702,676
INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)		Applicant: Yi Lu	
		Filing Date: November 6, 2003	Group: 1635

U.S. PATENT DOCUMENTS

Examiner Initials*		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	Z1	5,459,040	10/1995	Hammock, et al.			
	Z2	5,472,881	12/1995	Beebe, et al.			
	Z3	5,580,967	12/1996	Joyce			
	Z4	5,807,718	9/1998	Joyce, et al.			
	Z5	5,989,813	11/1999	Gerdes			
	Z6	6,706,474	03/2004	Lu, et al.			
	Z7	6,361,944	03/2002	Mirkin, et al.			
	Z8	6,451,535	9/2002	Jenne, et al.			
	Z9	6,040,138	03/2000	Lockhart, et al.			
	Z10	5,593,835	01/1997	Rando, et al.			

FOREIGN PATENT DOCUMENTS

Examiner Initials*		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
	Y1	WO 96/17086	6/1996	WO				
	Y2	WO 98/27104	6/1998	WO				
	Y3	WO 98/49346	11/1998	WO				
	Y4	WO 99/47704	9/1999	WO				
	Y5	WO 00/26226	5/2000	WO				
	Y6	WO 02/000006	1/2002	WO				
	Y7	WO 03/094838	11/2003	WO				
	Y8	WO 00/58505	10/2000	WO				X
	Y9	GB 2,339,280	1/2000	GB				

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	Y10	EP 1,219,708	7/2002	EP				
	Y11	EP 121970	10/1984	EP				
	Y12	WO 99/13338	03/1999	WO				
	Y13	WO 98/39484	09/1998	WO				
	Y14	WO 97/09342	03/1997	WO				

Examiner Initials*	OTHER ITEMS - NON PATENT LITERATURE DOCUMENTS Include, as applicable: Author, Title, Date, Publisher, Edition or Volume, Pertinent Pages							
	X1	Abstract of Joyce, G., "Design and catalytic activity of enzymic DNA molecules", (1998).						
	X4	Allara, D. et al., "Spontaneously organized molecular assemblies. 1. Formation, dynamics and physical properties of n-alkanoic acids adsorbed from solution on an oxidized aluminum surface", Langmuir, vol. 1, no. 1, pp. 45-52, (1985).						
	X5	Andreola, M-L., et al., "DNA aptamers selected against the HIV-1 RNase H display in vitro antiviral activity", Biochemistry, vol. 40, no. 34, pp. 10087-10094, (2001).						
	X6	Bain, C. D., et al., "Modeling organic surfaces with self-assembled monolayers", Angew. Chem. Int. Ed. Engl., vol. 28, no. 4, pp. 506-512, (1989).						
	X8	Been, M.D., et al., "Self-cleaving ribozymes of hepatitis delta virus RNA", Eur. J. Biochem., vol. 247, pp. 741-753, (1997).						
	X10	Biroccio, A., et al., "Selection of RNA aptamers that are specific and high-affinity ligands of the hepatitis C virus RNA-dependent RNA polymerase", Journal of Virology, vol. 76, no. 8, pp. 3688-3696, (2002).						
	X11	Blake, D.A., et al., "Antibody-based sensors for heavy metal ions", Biosensors & Bioelectronics, vol. 16, pp. 799-809, (2001).						
	X12	Blank, M., et al., "Systematic evolution of a DNA aptamer binding to rat brain tumor microvessels. Selective targeting of endothelial regulatory protein p120", Journal of Biological Chemistry, vol. 276, no. 19, pp. 16464-16468, (2001).						
	X13	Bock, L.C., et al., "Selection of single-stranded DNA molecules that bind and inhibit human thrombin", Nature, vol. 355, pp. 564-566, (1992).						
	X14	Bogden, J.D., et al., "Soil contamination from lead in paint chips", Bulletin of Environmental Contamination & Toxicology, vol. 14, no. 3, pp. 289-294, (1975).						
	X15	Boiziau, C., et al., "DNA aptamers selected against the HIV-1 trans-activation-responsive RNA element form RNA-DNA kissing complexes", Journal of Biological Chemistry, vol. 274, no. 18, pp. 12730-12737, (1999).						
	X17	Breaker, R.R., "Catalytic DNA: in training and seeking employment", Nature Biotechnology, vol. 17, pp. 422-423, (1999).						
	X19	Breaker, R.R., "DNA enzymes", Nature Biotechnology, vol. 15, pp. 427-431, (1997).						
	X20	Breaker, R.R., "MOLECULAR BIOLOGY: Making Catalytic DNAs", Science, vol. 290, issue 5499, pp. 2095-2096, (2000).						
	X21	Breaker, R.R., et al., "A DNA enzyme that cleaves RNA", Chemistry & Biology, vol. 1, no. 4, pp. 223-229, (1994).						
	X22	Breaker, R.R., et al., "A DNA enzyme with Mg ²⁺ -dependent RNA phosphoesterase activity", Chemistry & Biology, vol. 2, no. 10, pp. 655-660, (1995).						
	X23	Breaker, R.R., et al., "Engineered allosteric ribozymes as biosensor components", Current Opinion in Biotechnology, vol. 13, pp. 31-39, (2002).						
	X24	Brody, E.N., et al., "Aptamers as therapeutic and diagnostic agents", Reviews in Molecular Biotechnology, vol. 74, pp. 5-13, (2000).						

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X25	Broude, N.E., "Stem-loop oligonucleotides: a robust tool for molecular biology and biotechnology", Trends in Biotechnology, vol. 20, no. 6, pp. 249-256, (2002).
X26	Brown, A.K., et al., "A lead-dependent DNAzyme with a two-step mechanism", Biochemistry, vol. 42, no. 23, pp. 7152-7161, (2003).
X27	Bruesehoff, P.J., et al., "Improving metal ion specificity during In Vitro selection of catalytic DNA", Combinatorial Chemistry & High Throughput Screening, vol. 5, pp. 327-335, (2002).
X28	Bruno, J.G., et al., "In vitro selection of DNA aptamers to anthrax spores with electrochemiluminescence detection", Biosensors & Bioelectronics, vol. 14, pp. 457-464, (1999).
X29	Bruno, J.G., et al., "Use of magnetic beads in selection and detection of biotoxin aptamers by electrochemiluminescence and enzymatic methods", BioTechniques, vol. 32, no. 1, pp. 178-180, pp. 182-183, (2002).
X31	Burdette, S.C., et al., "Fluorescent Sensors for Zn ²⁺ Based on a Fluorescein Platform: Synthesis, Properties and Intracellular Distribution", J. Am. Chem. Soc., vol. 123, no. 32, pp. 7831-7841, (2001).
X32	Burgstaller, P., et al., "Isolation of RNA aptamers for biological cofactors by in vitro selection", Angew. Chem. Int. Ed. Engl., vol. 33, no. 10, pp. 1084-1087, (1994).
X33	Burgstaller, P., et al., "Structural probing and damage selection of citrulline- and arginine-specific RNA aptamers identify base positions required for binding", Nucleic Acids Research, vol. 23, no. 23, pp. 4769-4776, (1995).
X34	Burke, D.H., et al., "A Novel Acidophilic RNA Motif That Recognizes Coenzyme A", Biochemistry, vol. 37, no. 13, pp. 4653-4663, (1998).
X35	Burke, D.H., et al., "RNA aptamers to the adenosine moiety of S-adenosyl methionine: structural inferences from variations on a theme and the reproducibility of SELEX", Nucleic Acids Research, vol. 25, no. 10, pp. 2020-2024, (1997).
X36	Burke, D.H., et al., "RNA aptamers to the peptidyl transferase inhibitor chloramphenicol", Chemistry & Biology, vol. 4, no. 11, pp. 833-843, (1997).
X37	Burmeister, J., et al., "Cofactor-assisted self-cleavage in DNA libraries with a 3'-5'-phosphoramidate bond", Angew. Chem. Int. Ed. Engl., vol. 36, no. 12, pp. 1321-1324, (1997).
X38	Burwell Jr., R.L., "Modified silica gels as adsorbents and catalysts", Chemical Technology, 4, pp. 370-377, (1974).
X39	Cadwell, R.C., et al., "Mutagenic PCR", PCR Methods and Applications, vol. 3, pp. S136-S140, (1994).
X40	Cadwell, R.C., et al., "Randomization of genes by PCR mutagenesis", PCR Methods and Applications, vol. 2, pp. 28-33, (1992).
X43	Cao, Y.W., et al., "DNA-modified core-shell Ag/Au nanoparticles", J. Am. Chem. Soc., vol. 123, no. 32, pp. 7961-7962, (2001).
X44	Carmi, N., et al., "Cleaving DNA with DNA", Proc. Natl. Acad. Sci. USA, vol. 95, pp. 2233-2237, (1998).
X45	Carmi, N., et al., "In vitro selection of self-cleaving DNAs", Chemistry & Biology, vol. 3, no. 12, pp. 1039-1046, (1996).
X46	Cech, T.R., "Structure and mechanism of the large catalytic RNAs: group I and group II introns and ribonuclease P", The RNA World, pp. 239-269, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York, (1993).
X47	Cech, T.R., et al., "Group I ribozymes: substrate recognition, catalytic strategies, and comparative mechanistic analysis", Nucleic Acids and Molecular Biology, vol. 10, pp. 1-17, (1996).
X48	Chaloin, L., et al., "Endogenous expression of a high-affinity pseudoknot RNA aptamer suppresses replication of HIV-1", Nucleic Acids Research, vol. 30, no. 18, pp. 4001-4008, (2002).
X49	Chapman, K.B., et al., "In vitro selection of catalytic RNAs", Current Opinion in Structural Biology, vol. 4, pp. 618-622, (1994).
X53	Chen, J-H., et al., "A specific quadrilateral synthesized from DNA branched junctions", J. Am. Chem. Soc., vol. 111, no. 16, pp. 6402-6407, (1989).
X54	Chen, L., et al., "Crystal structure of a four-stranded intercalated DNA: d(C ₄)", Biochemistry, vol. 33, no. 46, pp. 13540-13546, (1994).
X56	Ciesiolka, J., et al., "Selection of an RNA domain that binds Zn ²⁺ ", RNA, vol. 1, pp. 538-550, (1995).

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X57	Ciesiolka, J., et al., "Small RNA-divalent domains", RNA, vol. 2, pp. 785-793, (1996).
X58	Conaty, J., et al., "Selected classes of minimised hammerhead ribozyme have very high cleavage rates at low Mg ²⁺ concentration", Nucleic Acids Research, vol. 27, no. 11, pp. 2400-2407, (1999).
X59	Conn, M.M., et al., "Porphyrin Metalation Catalyzed by a Small RNA Molecule", J. Am. Chem. Soc, vol. 118, no. 29, pp. 7012-7013, (1996).
X60	Connell, G.J., et al., "RNAs with dual specificity and dual RNAs with similar specificity", Science, New Series, vol. 264, issue 5162, pp. 1137-1141, (1994).
X61	Connell, G.J., et al., "Three small ribooligonucleotides with specific arginine sites", Biochemistry, vol. 32, no. 21, pp. 5497-5502, (1993).
X62	Cuenoud, B., et al., "A DNA metalloenzyme with DNA ligase activity", Nature, vol. 375, pp. 611-614, (1995).
X63	Czarnik, A.W., "Desperately seeking sensors", Chemistry & Biology, vol. 2, no. 7, pp. 423-428, (1995).
X64	Dai, X., et al., "Cleavage of an amide bond by a ribozyme", Science, New Series, vol. 267, issue 5195, pp. 237-240, (1995).
X65	Davis, J.H., et al., "Isolation of high-affinity GTP aptamers from partially structured RNA libraries", Proc. Natl. Acad. Sci. USA, vol. 99, no. 18, pp. 11616-11621, (2002).
X66	Davis, K.A., et al., "Staining of cell surface human CD4 with 2'-F-pyrimidine-containing RNA aptamers for flow cytometry", Nucleic Acids Research, vol. 26, no. 17, pp. 3915-3924, (1998).
X67	Definition of the word "ion" printed from Merriam-Webster online dictionary (www.m-w.com) on June 30, 2004.
X68	Definition of the word "particle" printed from Merriam-Webster online dictionary (www.m-w.com) on June 29, 2004.
X69	Deo, S., et al., "A Selective, Ratiometric Fluorescent Sensor for Pb ²⁺ ", J. Am. Chem. Soc., vol. 122, no. 1, pp. 174-175, (2000).
X70	Deroose, V.J., "Two Decades of RNA Catalysis", Chemistry & Biology, vol. 9, pp. 961-969, (2002).
X71	Didenko, V.V., "DNA probes using fluorescence resonance energy transfer (FRET): Designs and applications", BioTechniques, vol. 31, pp. 1106-1118, (2001).
X72	Doudna, J.A., et al., "The Chemical Repertoire of Natural Ribozymes", Nature, vol. 418, pp. 222-228, (2002).
X74	Earnshaw, D.J., et al., "Modified oligoribonucleotides as site-specific probes of RNA structure and function", Biopolymers (Nucleic Acid Sciences), vol. 48, pp. 39-55, (1998).
X75	Ekland, E.H., et al., "RNA-catalysed RNA polymerization using nucleoside triphosphates", Nature, vol. 382, pp. 373-376, (1996).
X76	Ekland, E.H., et al., "Structurally complex and highly active RNA ligases derived from random RNA sequences", Science, vol. 269, issue 5222, pp. 364-370, (1995).
X77	Elghanian, R., et al., "Selective colorimetric detection of polynucleotides based on the distance-dependent optical properties of gold nanoparticles", Science, vol. 277, pp. 1078-1081, (1997).
X78	Ellington, A.D., et al., "Aptamers as potential nucleic acid pharmaceuticals", Biotechnology Annual Review, vol. 1, pp. 185-214, (1995).
X79	Ellington, A.D., et al., "In vitro selection of RNA molecules that bind specific ligands", Nature, vol. 346, pp. 818-822, (1990).
X80	Ellington, A.D., et al., "Selection in vitro of single-stranded DNA molecules that fold into specific ligand-binding structures", Nature, vol. 355, pp. 850-852, (1992).
X81	Famulok, M., "Molecular Recognition of Amino Acids by RNA-Aptamers: An L-Citrulline Binding RNA Motif and Its Evolution into an L-Arginine Binder", J. Am. Chem. Soc., vol. 116, no. 5, pp. 1698-1706, (1994).
X82	Famulok, M., "Oligonucleotide aptamers that recognize small molecules", Current Opinion in Structural Biology, vol. 9, pp. 324-329, (1999).
X83	Famulok, M., et al., "In Vitro Selection Analysis of Neomycin Binding RNAs with a Mutagenized Pool of Variants of the 16S rRNA Decoding Region", Biochemistry, vol. 35, no. 14, pp. 4265-4270, (1996).

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X84	Famulok, M., et al., "Stereospecific recognition of tryptophan agarose by in vitro selected RNA", J. Am. Chem. Soc., vol. 114, no. 10, pp. 3990-3991, (1992).
X85	Faulhammer, D., et al., "Characterization and Divalent Metal-ion Dependence of in Vitro Selected Deoxyribozymes which Cleave DNA/RNA Chimeric Oligonucleotides", J. Mol. Biol., vol. 269, pp 188-202, (1997)
X86	Faulhammer, D., et al., "The Ca ²⁺ ion as a cofactor for a novel RNA-cleaving deoxyribozyme", Angew. Chem., Int. Ed. Engl., vol. 35, no. 23/24, pp. 2837-2841, (1996).
X89	Fodor, S.P.A., et al., "Light-directed, spatially addressable parallel chemical synthesis", Science, New Series, vol. 251, issue 4995, pp. 767-773, (1991).
X90	Frank, D.N., et al., "In vitro selection for altered divalent metal specificity in the RNase P RNA", Proc. Natl. Acad. Sci. USA, vol. 94, pp. 14355-14360, (1997).
X91	Frens, G., et al., "Controlled Nucleation for the regulation of the particle size in monodisperse gold suspensions", Nature Physical Science, vol. 241, pp. 20-22, (1973).
X92	Fukusaki, E-I., et al., "DNA aptamers that bind to chitin", Bioorganic & Medicinal Chemistry letters, vol. 10, pp. 423-425, (2000).
X93	Geiger, A., et al., "RNA aptamers that bind L-arginine with sub-micromolar dissociation constants and high enantioselectivity", Nucleic Acids Research, vol 24, no. 6, pp. 1029-1036, (1996).
X94	Geyer, C.R., et al., "Evidence for the metal-cofactor independence of an RNA phosphodiester-cleaving DNA enzyme", Chemistry & Biology, vol. 4, no. 8, pp. 579-593, (1997).
X95	Geyer, C.R., et al., "Lanthanide Probes for a Phosphodiester-cleaving, Lead-dependent, DNAzyme", J. Mol. Biol., vol. 275, pp. 483-489, (1998).
X96	Giver, L., et al., "Selection and design of high-affinity RNA ligands for HIV-1 Rev", Gene, vol. 137, pp. 19-24, (1993).
X97	Giver, L., et al., "Selective optimization of the Rev-binding element of HIV-1", Nucleic Acids Research, vol. 21, no. 23, pp. 5509-5516, (1993).
X98	Godwin, H.A., et al., "A Fluorescent Zinc Probe Based on Metal-Induced Peptide Folding", J. Am. Chem. Soc., vol. 118, pp. 6514-6515, (1996).
X99	Grabar, K., et al., "Preparation and characterization of Au colloid Monolayers", Analytical chemistry, vol 67, no. 4, pp. 735-743, (1995).
X101	Grate, D., et al., "Laser-mediated, site-specific inactivation of RNA transcripts", Proc. Natl. Acad. Sci. USA, vol. 96, pp. 6131-6136, (1999).
X102	Guschin, D., et al., "Manual manufacturing of oligonucleotide, DNA, and protein microchips", Analytical Biochemistry, vol. 250, pp. 203-211, (1997).
X103	Haller, A.A., et al., "In vitro selection of a 7-methyl-guanosine binding RNA that inhibits translation of capped mRNA molecules", Proc. Natl. Acad. Sci. USA, vol. 94, pp. 8521-8526, (1997).
X104	Harada, K., et al., "Identification of two novel arginine binding DNAs", The EMBO Journal, vol. 14, no. 23, pp. 5798-5811, (1995).
X107	Hennrich, G., et al., "Redox switchable fluorescent probe selective for either Hg(II) or Cd(II) and Zn(II)", J. Am. Chem. Soc., vol. 121, no. 21, pp. 5073-5074, (1999).
X108	Hesselberth, J., et al., "In vitro selection of nucleic acids for diagnostic applications", Reviews in Molecular Biotechnology, vol. 74, pp. 15-25, (2000).
X109	Hesselberth, J.R., et al., "Simultaneous detection of diverse analytes with an aptazyme ligase array", Analytical Biochemistry vol. 312, pp. 106-112, (2003).
X110	Ho, H-A., et al., "Optical sensors based on hybrid aptamer/conjugated polymer complexes", J. Am. Chem. Soc., vol 126, no. 5, pp. 1384-1387, (2004).
X112	Hofmann, H.P., et al., "Ni ²⁺ -binding RNA motifs with an asymmetric purine-rich internal loop and a G-A base pair", RNA, vol. 3, pp. 1289-1300, (1997).
X113	Holeman, L.A., et al., "Isolation and characterization of fluorophore-binding RNA aptamers", Folding & Design, vol. 3, pp. 423-431, (1998).
X115	Hoogstraten, C.G., et al., "Structural analysis of metal ion ligation to nucleotides and nucleic acids using pulsed EPR spectroscopy", J. Am. Chem. Soc., vol. 124, No. 5, pp. 834-842, (2002).
X116	Huizenga, D.E., et al., "A DNA aptamer that binds adenosine and ATP", Biochemistry, vol. 34, no. 2, pp. 656-665, (1995).

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X117	Iler, R.K., "The Chemistry of Silica: Solubility, Polymerization, Colloid and Surface Properties, and Biochemistry, Chapter 6, The surface chemistry of silica", pp. 622-729, A Wiley-Interscience Publication, New York, (1979).
X118	Illangasekare, M., et al., "Small-molecule-substrate interactions with a self-aminoacylating ribozyme", J. Mol. Biol., vol 268, pp. 631-639, (1997).
X119	Imperiali, B., et al., "Peptide platforms for metal ion sensing", Proc. SPIE-The international society for optical engineering, vol. 3858, pp. 135-143, (1999).
X120	International Search Report dated January 15, 2003 for corresponding PCT application number PCT/US01/20557.
X121	International Search Report dated August 1, 2003 for corresponding PCT application number PCT/US03/08483.
X125	Jayasena, S.D., "Aptamers: an emerging class of molecules that rival antibodies in diagnostics", Clinical Chemistry, vol. 45, no. 9, pp. 1628-1650, (1999).
X126	Jenison, R., et al., "Interference-based detection of nucleic acid targets on optically coated silicon", Nature Biotechnology, vol. 19, pp. 62-65, (2001).
X127	Jenison, R.D., et al., "High-resolution molecular discrimination by RNA", Science, vol. 263, pp. 1425-1429, (1994).
X128	Jenne, A., et al., "Rapid Identification and Characterization of Hammerhead-Ribozyme Inhibitors Using Fluorescence-Based Technology", Nature Biotechnology, vol. 19, pp. 56-61, (2001).
X129	Jenne, A., et al., "Real-time Characterization of Ribozymes by Fluorescence Resonance Energy Transfer (FRET)", Angewandte Chemie. International Edition, vol. 38, no. 9, pp. 1300-1303, (1999).
X130	Jhaveri, S., et al., "In vitro selection of signaling aptamers", Nature Biotechnology, vol. 18, pp. 1293-1297, (2000).
X131	Jhaveri, S.D., et al., "Designed signaling aptamers that transduce molecular recognition to changes in fluorescence intensity", J. Am. Chem. Soc., vol 122, no. 11, pp. 2469-2473, (2000).
X133	Joos, B., et al., "Covalent attachment of hybridizable oligonucleotides to glass supports", Analytical Biochemistry, vol. 247, pp. 96-101, (1997).
X134	Josephson, L., et al., "Magnetic nanosensors for the detection of oligonucleotide sequences", Angewandte Chemie. International Edition, vol. 40, no. 17, pp. 3204-3206, (2001)
X135	Joyce, G.F., "Appendix 3: Reactions Catalyzed by RNA and DNA Enzymes". The RNA World, vol. 37, pp. 687-690, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York, (1999).
X136	Joyce, G.F., "In vitro evolution of nucleic acids", Current Opinion in Structural Biology, vol. 4, pp. 331-336, (1994).
X138	Kato, T., et al., "In vitro selection of DNA aptamers which bind to cholic acid", Biochimica et Biophysica Acta, vol. 1493, pp. 12-18, (2000).
X139	Kawakami, J., et al., "In vitro selection of aptamers that act with Zn ²⁺ ", Journal of Inorganic Biochemistry, vol. 82, pp. 197-206, (2000)
X142	Kiga, D., et al., "An RNA aptamer to the xanthine/guanine base with a distinctive mode of purine recognition", Nucleic Acids Research, vol. 26, no. 7, pp. 1755-1760, (1998).
X144	Klußmann, S., et al., "Mirror-image RNA that binds D-adenosine", Nature Biotechnology, vol. 14, pp. 1112-1115, (1996).
X145	Kohama, T., et al., "Molecular Cloning and Functional Characterization of Murine Sphingosine Kinase", The Journal of Biological Chemistry, vol. 273, no. 37, pp. 23722-23728, (1998).
X146	Koizumi, M., et al., "Allosteric selection of ribozymes that respond to the second messengers cGMP and cAMP", Nature Structural Biology, vol. 6, no. 11, pp. 1062-1071, (1999).
X147	Koizumi, M., et al., "Molecular Recognition of cAMP by an RNA Aptamer", Biochemistry, vol. 39, no. 30, pp. 8983-8992, (2000).
X150	Lato, S.M., et al., "In vitro selection of RNA lectins: Using combinatorial chemistry to interpret ribozyme evolution", Chemistry & Biology, vol. 2, no. 5, pp. 291-303, (1995).
X151	Lauhon, C.T., et al., "RNA aptamers that bind flavin and nicotinamide redox cofactors", J. Am. Chem. Soc., vol. 117, no. 4, pp. 1246-1257, (1995).
X153	Lee, M., et al., "A fiber-optic microarray biosensor using aptamers as receptors", Analytical Biochemistry, vol. 282, pp. 142-146, (2000).

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X156	Lehman, N., et al., "Evolution in vitro of an RNA enzyme with altered metal dependence", Nature, vol. 361, pp. 182-185, (1993).
X158	Levy, M., et al., "ATP-Dependent Allosteric DNA Enzymes", Chemistry & Biology, vol. 9, pp. 417-426, (2002).
X159	Li, J., et al., "A highly sensitive and selective catalytic DNA biosensor for lead ions", J. Am. Chem. Soc., vol. 122, no. 42, pp. 10466-10467, (2000).
X160	Li, J., et al., "In vitro selection and characterization of a highly efficient Zn(II)-dependent RNA-cleaving deoxyribozyme", Nucleic Acids Research, vol. 28, no. 2, pp. 481-488, (2000).
X161	Li, J.J., et al., "Using molecular beacons as a sensitive fluorescence assay for enzymatic cleavage of single-stranded DNA", Nucleic Acids Research, vol. 28, no. 11, e52, pp. i-vi, (2000).
X162	Li, Y., et al., "A catalytic DNA for porphyrin metallation", Nature Structural Biology, vol. 3, no. 9, pp. 743-747, (1996).
X163	Li, Y., et al., "Capping DNA with DNA", Biochemistry, vol. 19, no. 11, pp. 3106-3114, (2000).
X164	Li, Y., et al., "Deoxyribozymes: new players in the ancient game of biocatalysis", Current Opinion in Structural Biology, vol. 9, pp. 315-323, (1999).
X165	Li, Y., et al., "Phosphorylating DNA with DNA", Proc. Natl. Acad. Sci. USA, vol. 96, pp. 2746-2751, (1999).
X166	Link, S., et al., "Alloy formation of gold-silver nanoparticles and the dependence of the plasmon absorption on their composition", J. Phys. Chem. B, vol. 103, no. 18, pp. 3529-3533, (1999).
X168	Liu, J., et al., "A colorimetric lead biosensor using DNAzyme-directed assembly of gold nanoparticles", J. Am. Chem. Soc., vol. 125, no. 22, pp. 6642-6643, (2003).
X169	Liu, J., et al., "Accelerated color change of gold nanoparticles assembled by DNAzymes for simple and fast colorimetric Pb ²⁺ detection", J. Am. Chem. Soc., vol. 126, no. 39, pp. 12298-12305, (2004).
X170	Liu, J., et al., "Adenosine-dependent assembly of aptazyme-functionalized gold nanoparticles and its application as a colorimetric biosensor", Analytical Chemistry, vol. 76, no. 6, pp. 1627-1632, (2004).
X171	Liu, J., et al., "Colorimetric biosensors based on DNAzyme-assembled gold nanoparticles", Journal of Fluorescence, vol. 14, no. 4, pp. 343-354, (2004).
X173	Liu, X., et al., "A fiber-optic evanescent wave DNA biosensor based on novel molecular beacons", Analytical Chemistry, vol. 71, no. 22, pp. 5054-5059, (1999).
X175	Lohse, P.A., et al., "Ribozyme-catalysed amino-acid transfer reactions", Nature, vol. 381, pp. 442-444, (1996).
X176	Lorsch, J.R., et al., "In vitro evolution of new ribozymes with polynucleotide kinase activity", Nature, vol. 371, pp. 31-36, (1994).
X177	Lorsch, J.R., et al., "In vitro selection of RNA aptamers specific for cyanocobalamin", Biochemistry, vol. 33, no. 4, pp. 973-982, (1994).
X178	Lott, W.B., et al., "A two-metal ion mechanism operates in the hammerhead ribozyme-mediated cleavage of an RNA substrate", Proc. Natl. Acad. Sci. USA, vol. 95, pp. 542-547, (1998).
X179	Lu, Y., "New transition-metal-dependent DNAzymes as efficient endonucleases and as selective metal biosensors", Chem. Eur. J., vol. 8, no. 20, pp. 4589-4596, (2002).
X180	Lu, Y., et al., "New fluorescent and colorimetric DNAzyme biosensors for metal ions", Journal of Inorganic Biochemistry, vol. 96, issue 1, pp. 30, Abstract of the 11 th International Conference on Biological Inorganic Chemistry; (July 15, 2003).
X181	Majerfeld, I., et al., "An RNA pocket for an aliphatic hydrophobe", Structural Biology, vol. 1, no. 5, pp. 287-292, (1994).
X182	Majerfeld, I., et al., "Isoleucine:RNA sites with associated coding sequences", RNA, vol. 4, pp. 471-478, (1998).
X184	Mannironi, C., et al., "In vitro selection of dopamine RNA ligands", Biochemistry, vol. 36, no. 32, pp. 9726-9734, (1997).
X185	Maoz, R., et al., "Penetration-controlled reactions in organized monolayer assemblies. 1. Aqueous permanganate interaction with monolayer and multilayer films of long-chain surfactants", Langmuir, vol. 3, no. 6, pp. 1034-1044, (1987).

Form PTO-1449 (Rev. 8-88)	Attorney Docket No. ILL05-040-DIV-US	Serial No. 10/702,676
INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)	Applicant: Yi Lu	
	Filing Date: November 6, 2003	Group: 1635

X187	Marsh, T.C., et al., "A new DNA nanostructure, the G-wire, imaged by scanning probe microscopy", <i>Nucleic Acids Research</i> , vol. 23, no. 4, pp. 696-700, (1995).
X189	Matteucci, M.D., et al., "Synthesis of Deoxyoligonucleotides on a polymer support", <i>J. Am. Chem. Soc.</i> , vol. 103, no. 11, pp. 3185-3191, (1981).
X197	Mirkin, C.A., et al., "A DNA-based method for rationally assembling nanoparticles into macroscopic materials", <i>Nature</i> , vol. 382, pp. 607-609, (1996).
X198	Mirkin, S.M., et al., "H-DNA and related structures", <i>Annu. Rev. Biophys. Biomol. Struct.</i> , vol. 23, pp. 541-576, (1994).
X199	Miyawaki, A., et al., "Fluorescent indicators for Ca^{2+} based on green fluorescent proteins and calmodulin", <i>Nature</i> , vol. 388, pp. 882-887, (1997).
X200	Mucic, R.C., et al., "Synthesis and characterization of DNA with ferrocenyl groups attached to their 5'-termini: electrochemical characterization of a redox-active nucleotide monolayer", <i>Chem. Commun.</i> , pp. 555-557, (1996).
X207	Nissen, P., et al., "The structural basis of ribosome activity in peptide bond synthesis", <i>Science</i> , vol. 289, pp. 920-930, (2000).
X208	Nolte, A., et al., "Mirror-design of L-oligonucleotide ligands binding to L-arginine", <i>Nature Biotechnology</i> , vol. 14, pp. 1116-1119, (1996).
X209	Nutiu, R., et al., "Structure-switching signaling aptamers", <i>J. Am. Chem. Soc.</i> , vol. 125, no. 16, pp. 4771-4778, (2003).
X210	Nuzzo, R.G., et al., "Spontaneously organized molecular assemblies. 3. Preparation and properties of solution adsorbed monolayers of organic disulfides on gold surfaces", <i>J. Am. Chem. Soc.</i> , vol. 109, no. 8, pp. 2358-2368, (1987).
X211	O'Donnell, M.J., et al., "High-Density, Covalent Attachment of DNA to Silicon Wafers for Analysis by MALDI-TOF Mass Spectrometry", <i>Analytical Chemistry</i> , vol. 69, no. 13, pp. 2438-2443, (1997).
X212	Oehme, I., et al., "Optical sensors for determination of heavy metal ions", <i>Mikrochim. Acta</i> , vol. 126, pp. 177-192, (1997).
X214	Ohmichi, T., et al., "Effect of substrate RNA sequence on the cleavage reaction by a short ribozyme", <i>Nucleic Acids Research</i> , vol. 26, no. 24, pp. 5655-5661, (1998).
X215	Okazawa, A., et al., "In vitro selection of hematoporphyrin binding DNA aptamers", <i>Bioorganic & Medicinal Chemistry, Letters</i> 10, pp. 2653-2656, (2000).
X216	Ota, N., et al., "Effects of helical structures formed by the binding arms of DNazymes and their substrates on catalytic activity", <i>Nucleic Acids Research</i> , vol. 26, no. 14, pp. 3385-3391, (1998).
X217	Pan, T., et al., "A small metalloribozyme with a two-step mechanism", <i>Nature</i> , vol. 358, pp. 560-563, (1992).
X218	Pan, T., et al., "In vitro selection of RNAs that undergo autolytic cleavage with Pb^{2+} ", <i>Biochemistry</i> , vol. 31, no. 16, pp. 3887-3895, (1992).
X219	Pan, T., et al., "Properties of an in vitro selected Pb^{2+} cleavage motif", <i>Biochemistry</i> , vol. 33, no. 32, pp. 9561-9565, (1994).
X224	Pavlov, V., et al., "Aptamer-functionalized au nanoparticles for the amplified optical detection of thrombin", <i>J. Am. Chem. Soc.</i> , vol 126, no. 38, pp. 11768-11769, (2004).
X225	Pearce, D.A., et al., "Peptidyl chemosensors incorporating a FRET mechanism for detection of Ni(II)", <i>Bioorganic & Medicinal Chemistry, Letters</i> 8, pp. 1963-1968, (1998).
X226	Pease, A.C., et al., "Light-generated oligonucleotide arrays for rapid DNA sequence analysis", <i>Proc. Natl. Acad. Sci. USA</i> , vol. 91, pp. 5022-5026, (1994).
X227	Piccirilli, J.A., et al., "Aminoacyl esterase activity of the tetrahymena ribozyme", <i>Science, New Series</i> , vol. 256, issue 5062, pp. 1420-1424, (1992).
X228	Pley, H.W., et al., "Three-dimensional structure of a hammerhead ribozyme", <i>Nature</i> , vol. 372, pp. 68-74, (1994).
X229	Potyailo, R.A., et al., "Adapting selected nucleic acid ligands (aptamers) to biosensors", <i>Analytical Chemistry</i> , vol. 70, no. 16, pp. 3419-3425, (1998).
X230	Prudent, J.R., et al., "Expanding the scope of RNA catalysis", <i>Science, New Series</i> , vol. 264, issue 5167, pp. 1924-1927, (1994).

Form PTO-1449 (Rev. 8-88)	Attorney Docket No. ILL05-040-DIV-US	Serial No. 10/702,676
INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)	Applicant: Yi Lu	
	Filing Date: November 6, 2003	Group: 1635

X232	Rabinowitz, M., et al., "Home refinishing, lead paint, and infant blood lead levels", American Journal of Public Health, vol. 75, no. 4, pp. 403-404, (1985).
X233	Rajendran, M., et al., "Selecting nucleic acids for biosensor applications", Combinatorial Chemistry and High Throughput Screening, vol. 5, no. 4, pp. 263-270, (2002).
X234	Rakow, N.A., et al., "A colorimetric sensor array for odour visualization", Nature, vol. 406, pp. 710-713, (2000).
X235	Rink, S.M., et al., "Creation of RNA molecules that recognize the oxidative lesion 7,8-dihydro-8-hydroxy-2'-deoxyguanosine (8-oxodG) in DNA", Proc. Natl. Acad. Sci. USA, vol. 95, pp. 11619-11624, (1998).
X236	Robertson, M.P., et al., "Design and optimization of effector-activated ribozyme ligases", Nucleic Acids Research, vol. 28, no. 8, pp. 1751-1759, (2000).
X237	Robertson, M.P., et al., "In vitro selection of an allosteric ribozyme that transduces analytes to amplicons", Nature Biotechnology, vol. 17, pp. 62-66, (1999).
X238	Roth, A., et al., "An amino acid as a cofactor for a catalytic polynucleotide", Proc. Natl. Acad. Sci. USA, vol. 95, pp. 6027-6031, (1998).
X241	Rurack, K., et al., "A selective and sensitive fluoroionophore for Hg ^{II} , Ag ^I , and Cu ^{II} with virtually decoupled fluorophore and receptor units", J. Am. Chem. Soc., vol. 122, no. 5, pp. 968-969, (2000).
X242	Rusconi, C.P., et al., "RNA aptamers as reversible antagonists of coagulation factor Ixa", Nature, vol. 419, pp. 90-94, (2002).
X243	Sabanayagam, C.R., et al., "Oligonucleotide immobilization on micropatterned streptavidin surfaces", Nucleic Acids Research, vol. 28, no. 8, e33, pp. i-iv, (2000).
X244	Santoro, S.W. et al., "Mechanism and utility of an RNA-cleaving DNA enzyme", Biochemistry, vol. 37, no. 38, pp. 13330-13342, (1998).
X245	Santoro, S.W., et al., "A general purpose RNA-cleaving DNA enzyme", Proc. Natl. Acad. Sci. USA, vol. 94, pp. 4262-4266, (1997).
X246	Santoro, S.W., et al., "RNA Cleavage by a DNA Enzyme with Extended Chemical Functionality", J. Am. Chem. Soc., vol. 122, no. 11, pp. 2433-2439, (2000).
X247	Sassanfar, M., et al., "An RNA motif that binds ATP", Nature, vol. 364, pp. 550-553, (1993).
X248	Schwartz, J., et al., "The risk of lead toxicity in homes with lead paint hazard", Environmental Research, vol. 54, no. 1, pp. 1-7, (1991).
X249	Scott, W.G., et al., "The crystal structure of an all-RNA hammerhead ribozyme: A proposed mechanism for RNA catalytic cleavage", Cell, vol. 81, pp. 991-1002, (1995).
X251	Search results of key word search of medline, March 26, 2000.
X252	Search results of key word search on Chemical Abstracts, March 24, 2000.
X253	Search results of key word search from various databases, March 24, 2000.
X254	Seeman, N.C., et al., "Synthetic DNA knots and catenanes", New Journal of Chemistry, vol. 17, pp. 739-755, (1993).
X257	Seetharaman, S., et al., "Immobilized RNA switches for the analysis of complex chemical and biological mixtures", Nature Biotechnology, vol. 19, pp. 336-341, (2001).
X258	Sen, D., et al., "DNA enzymes", Current Opinion in Chemical Biology, vol. 2, pp. 680-687, (1998).
X259	Shaiu, W-L., et al., "Atomic force microscopy of oriented linear DNA molecules labeled with 5nm gold spheres", Nucleic Acids Research, vol. 21, no. 1, pp. 99-103, (1993).
X260	Shaw, S.Y., et al., "Knotting of a DNA chain during ring closure", Science, New Series, vol. 260, issue 5107, pp. 533-536, (1993).
X261	Shekhtman, E.M., et al., "Stereostructure of replicative DNA catenanes from eukaryotic cells", New Journal of Chemistry, vol. 17, pp. 757-763, (1993).

Form PTO-1449 (Rev. 8-88)	Attorney Docket No. ILL05-040-DIV-US	Serial No. 10/702,676
INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)	Applicant: Yi Lu	
	Filing Date: November 6, 2003	Group: 1635

X262	Sigurdsson, S.T., et al., "Small ribozymes", RNA Structure and Function, Cold Spring Harbor Laboratory Press (Monograph 35), pp. 339-375, (1998).
X264	Singh, K.K., et al., "Fluorescence Polarization for Monitoring Ribozyme Reactions in Real-Time", Biotechniques, vol. 29, no. 2, pp. 344-351, (2000).
X265	Smith, F.W., et al., "Quadruplex structure of oxytricha telomeric DNA oligonucleotides", Nature, vol. 356, pp. 164-168, (1992).
X266	Smith, J.O., et al., "Molecular recognition of PNA-containing hybrids: Spontaneous assembly of helical cyanine dye aggregates on PNA templates", J. Am. Chem. Soc., vol. 121, no. 12, pp. 2686-2695, (1999).
X267	Soriaga, M.P., et al., "Determination of the orientation of aromatic molecules adsorbed on platinum electrodes: The effect of solute concentration", J. Am. Chem. Soc., vol. 104, no. 14, pp. 3937-3945, (1982).
X269	Soukup, G.A., et al., "Allosteric nucleic acid catalysts", Current Opinion in Structural Biology, vol. 10, pp. 318-325, (2000).
X271	Stage-Zimmermann, T.K., et al., "Hammerhead ribozyme kinetics", RNA, vol. 4, pp. 875-889, (1998).
X272	Stojanovic, M.N., et al., "Aptamer-based colorimetric probe for cocaine", J. Am. Chem. Soc., vol. 124, no. 33, pp. 9678-9679, (2002).
X273	Stojanovic, M.N., et al., "Aptamer-based folding fluorescent sensor for cocaine", Journal of the American Chemical Society, vol. 123, no. 21, pp. 4928-4931, (2001).
X274	Stojanovic, M.N., et al., "Fluorescent sensors based on aptamer self-assembly", Journal of the American Chemical Society, vol. 122, no. 46, pp. 11547-11548, (2000).
X278	Storhoff, J.J., et al., "One-pot colorimetric differentiation of polynucleotides with single base imperfections using gold nanoparticle probes", Journal of the American Chemical Society, vol. 120, no. 9, pp. 1959-1964, (1998).
X281	Sun, L.Q., et al., "Catalytic nucleic acids: From lab to applications", Pharmacological Reviews, vol. 52, pp. 325-347, (2000).
X284	Tang, J., et al., "Rational design of allosteric ribozymes", Chemistry & Biology, vol. 4, no. 6, pp. 453-459, (1997).
X285	Tang, J., et al., "Structural diversity of self-cleaving ribozymes", Proc. Natl. Acad. Sci. USA, vol. 97, no. 11, pp. 5784-5789, (2000).
X286	Tanner, N.K., "Biochemistry of hepatitis delta virus catalytic RNAs", Ribozymes in the Gene Therapy of Cancer, Chapter 3, pp. 23-38, (1998).
X287	Tao, J., et al., "Arginine-Binding RNAs Resembling TAR Identified by in Vitro Selection", Biochemistry, vol. 35, no. 7, pp. 2229-2238, (1996).
X288	Tarasow, T.M., et al., "RNA-catalysed carbon-carbon bond formation", Nature, vol. 389, pp. 54-57, (1997).
X290	Thompson, R.B., et al., "Determination of Picomolar Concentrations of Metal Ions Using Fluorescence Anisotropy: Biosensing with a "Reagentless" Enzyme Transducer", Analytical Chemistry, vol. 70, no. 22, pp. 4717-4723, (1998).
X291	Timmons, C.O., et al., "Investigation of Fatty Acid Monolayers on Metals by Contact Potential Measurements", Journal of Physical Chemistry, vol. 69, no. 3, pp. 984-990, (1965).
X292	Tompkins, H.G., et al., "The study of the gas-solid interaction of acetic acid with a cuprous oxide surface using reflection-absorption spectroscopy", Journal of Colloid and Interface Science, vol. 49, no. 3, pp. 410-421, (1974).
X293	Travascio, P., et al., "A ribozyme and a catalytic DNA with peroxidase activity: active sites versus cofactor-binding sites", Chemistry & Biology, vol. 6, no. 11, pp. 779-787, (1999).
X294	Tsang, J., et al., "In vitro evolution of randomized ribozymes", Methods in Enzymology, vol. 267, pp. 410-426, (1996).
X296	Tuerk, C., et al., "RNA pseudoknots that inhibit human immunodeficiency virus type 1 reverse transcriptase", Proc. Natl. Acad. Sci. USA, vol. 89, pp. 6988-6992, (1992).
X297	Tuerk, C., et al., "Systematic evolution of ligands by exponential enrichment: RNA ligands to bacteriophage T4 DNA polymerase", Science, New Series, vol. 249, issue 4968, pp. 505-510, (1990).
X298	Tyagi, S., et al., "Molecular Beacons: Probes that fluoresce upon hybridization", Nature Biotechnology, vol. 14, pp. 303-308, (1996).

Form PTO-1449 (Rev. 8-88)	Attorney Docket No. ILL05-040-DIV-US	Serial No. 10/702,676
INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)	Applicant: Yi Lu	
	Filing Date: November 6, 2003	Group: 1635

X299	Tyagi, S., et al., "Multicolor molecular beacons for allele discrimination", Nature Biotechnology, vol 16, pp. 49-53, (1998).
X302	Uphoff, K.W., et al., "In vitro selection of aptamers: the dearth of pure reason", Current Opinion in Structural Biology, vol. 6, pp. 281-288, (1996).
X303	Vaish, N.K., et al., "In vitro selection of a purine nucleotide-specific hammerhead-like ribozyme", Proc. Natl. Acad. Sci. USA, vol. 95, pp. 2158-2162, (1998).
X304	Valadkhan, S., et al., "Splicing-related catalysis by protein-free snRNAs", Nature, vol 413, pp. 701-707, (2001).
X305	Vianini, E., et al., "In vitro selection of DNA aptamers that bind L-tyrosinamide", Bioorganic & Medicinal Chemistry, vol. 9, pp. 2543-2548, (2001).
X306	Walkup, G.K., et al., "Design and Evaluation of a Peptidyl Fluorescent Chemosensor for Divalent Zinc", J. Am. Chem. Soc., vol. 118, no. 12, pp. 3053-3054, (1996).
X307	Wallace, S.T., et al., "In vitro selection and characterization of streptomycin-binding RNAs: recognition discrimination between antibiotics. RNA, vol 4, pp. 112-123, (1998).
X308	Wallis, M.G., et al., "A novel RNA motif for neomycin recognition", Chemistry & Biology, vol. 2, no. 8, pp. 543-552, (1995).
X309	Wallis, M.G., et al., "In vitro selection of a viomycin-binding RNA pseudoknot", Chemistry & Biology, vol. 4, no. 5, pp. 357-366, (1997).
X310	Walter, F., et al., "Folding of the four-way RNA junction of the hairpin ribozyme", Biochemistry, vol. 37, no. 50, pp. 17629-17636, (1998).
X311	Walter, N.G., et al., "The hairpin ribozyme: structure, assembly and catalysis", Current Opinion in Chemical Biology, vol. 2, pp. 24-30, (1998).
X312	Wang, D.Y., et al., "A general strategy for effector-mediated control of RNA-cleaving ribozymes and DNA enzymes", J. Mol. Biol., vol. 318, pp. 33-43, (2002).
X313	Wang, F., et al., "Sphingosine-1-phosphate Inhibits Motility of Human Breast Cancer Cells Independently of Cell Surface Receptors", Cancer Research, vol. 59, pp. 6185-6191, (1999).
X314	Wang, J., "Survey and Summary: From DNA biosensors to gene chips", Nucleic Acids Research, vol. 28, no. 16, pp. 3011-3016, (2000).
X315	Wang, K.Y., et al., "A DNA aptamer which binds to and inhibits thrombin exhibits a new structural motif for DNA", Biochemistry, vol. 32, no. 8, pp. 1899-1904, (1993).
X316	Wang, Y., et al., "Assembly and characterization of five-arm and six-arm DNA branched junctions", Biochemistry, vol. 30, pp. 5667-5674, (1991).
X317	Wang, Y., et al., "RNA molecules that specifically and stoichiometrically bind aminoglycoside antibiotics with high affinities", Biochemistry, vol. 35, no. 38, pp. 12338-12346, (1996).
X318	Wecker, M., et al., "In vitro selection of a novel catalytic RNA: characterization of a sulfur alkylation reaction and interaction with a small peptide", RNA, vol. 2, pp. 982-994, (1996).
X319	Wedekind, J.E., et al., "Crystal structure of a lead-dependent ribozyme revealing metal binding sites relevant to catalysis", Nature Structural Biology, vol. 6, no. 3, pp. 261-268, (1999).
X320	Wedekind, J.E., et al., "Crystal structure of the leadzyme at 1.8 Å Resolution: Metal ion binding and the implications for catalytic mechanism and allo site ion regulation", Biochemistry, vol. 42, no. 32, pp. 9554-9563, (2003).
X321	Wells, R.D., "Unusual DNA structures", Journal of Biological Chemistry, vol. 263, no. 3, pp. 1095-1098, (1988).
X322	Werstuck, G., et al., "Controlling gene expression in living cells through small molecule-RNA interactions", Science, vol. 282, pp. 296-298, (1998).
X324	Whitesides, G.M., et al., "Self-assembled monolayers and lithography", Proceedings of the Robert A. Welch Foundation 39th Conference On Chemical Research on Nanophase Chemistry, pp. 109-121, Houston, TX, October 23-24, 1995.
X326	Wiegand, T.W., et al., "Selection of RNA amide synthases", Chemistry & Biology, vol. 4, no. 9, pp. 675-683, (1997).
X327	Williams, K.P., et al., "Bioactive and nuclease-resistant L-DNA ligand of vasopressin", Proc. Natl. Acad. Sci. USA, vol. 94, pp. 11285-11290, (1997).

Form PTO-1449 (Rev. 8-88)	Attorney Docket No. ILL05-040-DIV-US	Serial No. 10/702,676
INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)	Applicant: Yi Lu	
	Filing Date: November 6, 2003	Group: 1635

X328	Williams, K.P., et al., "Selection of novel Mg ²⁺ -dependent self-cleaving ribozymes" The EMBO Journal, vol. 14, no. 18, pp. 4551-4557, (1995).
X329	Wilson, C., et al., "Functional requirements for specific ligand recognition by a biotin-binding RNA Pseudoknot", Biochemistry, vol. 37, no. 41, pp. 14410-14419, (1998).
X330	Wilson, C., et al., "In vitro evolution of a self-alkylating ribozyme", Nature, vol. 374, pp. 777-782, (1995).
X331	Wilson, C., et al., "Isolation of a fluorophore-specific DNA aptamer with weak redox activity", Chemistry & Biology, vol. 5, no. 11, pp. 609-617, (1998).
X332	Wilson, D.S., et al., "In vitro selection of functional nucleic acids", Annu. Rev. Biochem. vol. 68, pp. 611-647, (1999).
X333	Winkler, J.D., et al., "Photodynamic Fluorescent Metal Ion Sensors with Parts per Billion Sensitivity", J. Am. Chem. Soc., vol. 120, no. 13, pp. 3237-3242, (1998).
X335	Xia, P., et al., "Activation of Sphingosine Kinase by Tumor Necrosis Factor- α Inhibits Apoptosis in Human Endothelial Cells", Journal of Biological Chemistry, vol. 274, no. 48, pp. 34499-34505, (1999).
X337	Yang, Q., et al., "DNA ligands that bind tightly and selectively to cellobiose", Proc. Natl. Acad. Sci. USA, vol. 95, pp. 5462-5467, (1998).
X339	Yurke, B., et al., "A DNA-fuelled molecular machine made of DNA", Nature, vol. 406, pp. 605-608, (2000).
X340	Zhang, B., et al., "Peptide bond formation by in vitro selected ribozymes", Nature, vol. 390, pp. 96-100, (1997).
X341	Zhang, P., et al., "Design of a molecular beacon DNA probe with two fluorophores", Angewandte Chemie International Edition, vol. 40, no. 2, pp. 402-405, (2001).
X342	Zillmann, M., et al., "In vitro optimization of truncated stem-loop II variants of the hammerhead ribozyme for cleavage in low concentrations of magnesium under non-turnover conditions", RNA, vol. 3, pp. 734-747, (1997).
X343	Zimmerman, J.M., et al., "In vivo selection of spectinomycin-binding RNAs", Nucleic Acids Research, vol. 30, no. 24, pp. 5425-5435, (2002).
X344	Zimmermann, G.R., et al., "Molecular interactions and metal binding in the theophylline-binding core of an RNA aptamer", RNA, vol. 6, pp. 659-667, (2000).